UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,895	03/03/2000	Lev Novik	2150	5628

7590 03/23/2004

LAW OFFICES OF
ALBERT S. MICHALIK, PLLC
704-228TH AVENUE N.E.
SUITE 193
SAMMAMISH, WA 98074

EXAMINER	
TRUONG, LECHI	
ART UNIT	**PAPER NUMBER**
2126	8

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/517,895	NOVIK ET AL.	
	Examiner	Art Unit	
	LeChi Truong	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *23 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims11-32 are presentation for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **11, 12, 14, 15, 16, 19-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehab S. Al-Shaer (A Survey of Event Filtering Mechanisms for Dynamic Multi-Point Applications) in view of David Johnstone (Data structure with C++)

3. **As to claim 11**, Healer teaches the invention substantially as claimed including: notification (notification, section 2,1, ln 5-43, section 2.2, ln 20-30), event (section 2,1, ln 5-43/ section 2.2, ln 20-30/ section 3.2.1, ln 5-50), an event filtering tree (tree, section 3.2.1, ln 5-50), OR node (Predicates may be joined by operators such as AND, OR and NOT, section 2.1 ln 5-43), a child node, another child node (node/predicate, section 3.2.1, ln 5-50), a first evaluation/ second evaluation (test predicates, section 3.2.1, ln 5-50), information of event(a single event/ the message field value, section 3.4.1, page 9, ln 3-13), leaf node(leaf node/ the terminal node, section 3.2.1, ln 5-50), the result(True, False, section 3.2.1, ln 5-50), the occurrence of the event(the occurrence of the corresponding event, page 14, ln 1-7), subscriber(1-10 / section 3.5, page

11, ln 1- 25), the query information satisfied by event(True, False, section 3.2.1, ln 5-50/ message_id=51 or 17<= transaction-number< 40, section 3.4, page 9, ln 1-13). Ehaer does not explicit teach traversing a tree. However, Johnstone teaches traversing a tree (inorder traversal tree, Page 547).

4. It would have been obvious to one of the ordinary skill in the art at time invention was made to combine the teaching of Ehaer and Johntone because Johntone's traversing tree would visit the node from the left tree of node to the parent node and the visit the right tree node.

5. **As to claim 12**, Ehaer teaches information in leaf node corresponds to registered subscribers (the true node that denotes the acceptance of the packet, section 3.2.1, ln 5-50).

6. **As to claim 14**, Shaer teaches leaf node (leaf node, section: 3.2.1, ln 32-50), true/false (true, false, section 3.2.1, ln 32-50).

7. **As to claim 15**, Shaer teaches event parameter value (the message field value, section 3.4, page 9, ln 3-13), a data point (a matching value, section 3.4, page 9, ln 3-13).

8. **As to claim 16**, Shaer teaches set of queries (SQL queries, section 3.3.2, page 8, ln 24-47), the event filtering tree (event filter, section 3.3.2, page 8, ln 24-47).

9. **As to the computer-readable medium of claim 19,** refer to the rejection of claim 1. Further, Shaer teaches at least two nodes (two terminal nodes), event parameter (message-id=51 or 17<= transaction number< 40, left col 9, ln 3-12/ predicates parameters, sec: 3.4.2 (parameterized filter expression). Shaer does not explicit teach the query information includes determining which subscribers correspond to each satisfied query.

10. **As to claim 20,** Shaer teaches plurality of data points (message_id and transaction_number, section 3.4.2, page 9, ln 30-38).

21 **As to claim 21**, it is apparatus claim of claim 19; therefore, it is rejected for the same reason as claim 19 above.

22. **As to claim 22**, Shaer teaches OR (OR, left col 2, sec: 2.1)

23. **As to claim 23,** Shaer teaches a different event parameter (the message field value / message-id=51 or 17<= transaction number< 40, left col 9, ln 3-12/ predicates parameters, sec: 3.4.2 (parameterized filter expression)).

24. **As to claim 24**, Shaer teaches the boolean value (True, right col 5, ln 19-60), the leaf node (the terminating node/ the leaves, col 5, ln 19-60), the branch of the parent node (the right and left hand edge, col 5, ln 19-60).

25. **As to claim 25**, Shaer teaches a plurality of value (the message field value / message-id=51 or 17<= transaction number< 40, left col 9, ln 3-12/ constant or variable parameter, predicates parameters, sec: 3.4.2 (parameterized filter expression).

26. Claims **13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehaer S. Al-Shaer (A Survey of Event Filtering Mechanisms for Dynamic Multi-Point Applications) in view of Thai (US. Patent 5,666,528).

27. **As to claim 13**, Shaer teaches the query information (True, False, True, False, section 3.2.1, ln 5-50). Shaer does not teach the query information includes determining which subscribers correspond to each satisfied query. However, Thai teaches the query information includes determining which subscribers correspond to each satisfied query (the query

information includes determining which subscribers correspond to each satisfied query, col 8, ln 36-62).

28. It would have been obvious to one of the ordinary skill in the art at time invention was made to combine the teaching of Shaer and Thai because Thai's the query information includes determining which subscribers correspond to each satisfied query would select desired events by entering the fitter using the queries corresponding to values stored in the fields and to optimize for providing rapid access to the desired events.

29. Claim **17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehab S. Al-Shaer (A Survey of Event Filtering Mechanisms for Dynamic Multi-Point Applications) in view of Bhatt et al (US, Patent 6,405,191 B1).

30. **As to claim 17**, Shaer does not explicit teach the set of queries is received from an event subscriber. However, Bhatt teaches the set of queries is received from an event subscriber (the service receiving a query that is written in a query language supported by the relational database system from a subscriber, col 14, ln 61-67).

31. It would have been obvious to one of the ordinary skill in the art at time invention was made to combine the teaching of Shaer and Bhatt because Bhatt's "the service receiving a query that is written in a query language supported by the relational database system from a subscriber" would make an event-filtering tree take advantage of the existing knowledge base and toolsets of the query language.

32. Claim **18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehab S. Al-Shaer (A Survey of Event Filtering Mechanisms for Dynamic Multi-Point Applications) in view of Knight et al (US. Patent 6,493,703 B1).

33. **As to claim 18**, Shaer does not explicit teach the set of queries is received from an event provider. However, Knight teaches set of queries is received from an event provider (the service provider specified queries, col 19, ln 57-67).

34. It would have been obvious to one of the ordinary skill in the art at time invention was made to combine the teaching of Shaer and Knight because Knight's the service provider specified queries would make an event-filtering tree take advantage of the existing knowledge base and toolsets of the query language.

35. Claims **26-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehaer S. Al-Shaer (A Survey of Event Filtering Mechanisms for Dynamic Multi-Point Applications) in view of Lortz (US. Patent 6,438,618 B1).

36. **As to claim 26**, Shaer teaches notification (a notification, left col 9, ln 14-24), events (event information, left col 9, ln 14-24), traversing (traversed, sec: 3.2.2, ln 32-50), a composite event filtering tree (DAG / Boolean expression tree, right col 5, ln 14-50), boolean constructor (the operator such as =, <, <=, >, >=, left col 9, ln 1-14), determining (checked, left col 8, ln 1-15), one query (message_id=51 or 17<= transaction_number< 40), satisfied (event matched if the

terminal node is denoted true). Shaer does not teach notifying at least one subscriber. However, Lortz teaches notifying at least one subscriber (passes the event to the event subscriber only if the condition of the event filter is met, col 10, ln 13-18).

It would have been obvious to one of the ordinary skill in the art at time invention was made to combine the teaching of Shaer and Lortz beacuase Lortz's "passes the event to the event subscriber only if the condition of the event filter is met" would provide a system for filtering events received by clients so that only events that will initiate a particular action by a particular client will be passed to that client.

37. **As to claim 27**, Shaer teaches a parent node (parent, sec: 3.2.1, ln 14-31), Boolean operator (the operator, sec: 3.2.1, ln 14-31/ sec: 2.1, ln 35-43).

38. **As to claim 28**, Shaer teaches branching (traversed, sec: 3.2.1, ln 31-50), a child node having a event parameter (message-id=51 or 17<= transaction number< 40, left col 9, ln 3-12/ predicates parameters, sec: 3.4.2 (parameterized filter expression).

39. **As to claim 29**, Shaer teaches a leaf node (terminal nodes, sec: 3.2.1, ln 32-50), a Boolean value (true, sec: 3.2.1, ln 32-50).

40. **As to claim 30,** Shaer teaches comparing a received event value to plurality of values presented by the event parameter of the event parameter of the child node (every predicate compares the message field value with a matching value, left col 9, ln 1-14).

41. **As to claim 31,** Shaer teaches the boolean value of the leaf node (the terminal nodes is denoted as true, right col 5, ln 32-50), another branch of the parent node (the right hand edge and left hand edge is traversed, right col 5, ln 32-50).

42. **As to claim 32**, it is an apparatus claim of claim 26; therefore, it is rejected for the same reason as claim 26 above.

Response to the argument

43. Application amendment filed on 12/23/2003 has been considered but they are not persuasive.

44. In the remarks, application argued in substance that (1) " does not represent an event parameter as some interior nodes do in applicant's claims". (2) " top down traversal of the tree staring with a Boolean operator and obtaining query results from the leaves of the tree" .(3) " there are no interior node in AL-Shaer's Boolean expression tree represents a Boolean operation". (4) " Nor does Al-shaer describe using a boolean constructor to create a parent node having the Boolean Or operator"

45. Examiner respectfully traversed Applicant's remarks:

As to the point (1), Al-Shaer teaches each node represent the test predicates (righ col 5, section Directed Acyclic Graph representation), every test predicated has a event parameter which is the message field value, left col 9, ln 1-13/ each predicates consist one or more parameters (message _id and transaction _number are predicates parameters, right col 9, sec: Parameterized Filter expression).

As to the point (2), Al-Shaer teaches top down such that if the test predicate is true, and propagating the result by traversed the right-hand edge or left hand edge, and the leaf node denoted as true or false (right col 5, sec: Directed Acyclic Graph Representations), top-down of

DAG is similar to bottom up of Boolean Expression Tree Representation. In the Boolean Expression Tree Representation, the result is denoted at the root node and in DAG, the result is denoted at the leaf node.

As to the point (3), Al_Shaer teaches each interior node in the tree presents a Boolean operation (right col 5, sec: Boolean expression Tree Representation)/ Predicates in each node may be joined by operators (such as AND, OR and Not, sec: 2.2/ ln 35-45).

As to the point (4), Al_Shaer teaches Predicates in each node may be joined by operators (such as AND, OR and Not, sec: 2.2/ ln 35-45), AND, OR and Not are parent nodes/ each edge in the tree connects the operator (parent node)(sec: 3.2.1, sec: Boolean Expression Tree Representaion)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

March 12, 2004

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100